Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (Previously Presented) A printer apparatus translating high-level printing signals received by the printer from a source of these signals and responsively providing control signals effecting actions of the printer, said printer apparatus comprising:

print formatter circuit means receiving high-level printing signals communicating from a host computer unit and responsively outputting a mid-level interface communication signals including print data and print data register addresses;

printhead controller circuit means including a replaceable ASIC receiving said output from said print formatter circuit, and responsively providing low-level discreet control signals controlling printing actions of a printhead.

2.   (Original) A printer apparatus according to claim 1, wherein said printhead controller circuit means includes an application specific integrated circuit (ASIC) including functions, instructions and algorithms for translating said mid-level interface communication signals into said low-level control signals.

3.   (Original) A printer apparatus according to claim 1, wherein said ASIC includes a function allowing identification of a printhead type currently installed in the printer.

4.   (Original) A printer apparatus according to claim 1 wherein said printhead controller circuit ASIC further allows said printhead controller circuit to control a temperature of said printhead.

5.   (Original) A printer apparatus according to claim 1 wherein said printhead includes a plurality of printing orifices, and said ASIC provides a "orifice select" signal indicative of a particular one of said plurality of orifices from which ink is to be ejected.

6.   (Original) A printer apparatus according to claim 1 wherein said intermediate level communication interface provides exclusive communication between said print formatter circuit and said printhead controller circuit.

7-14   (Canceled)

15.   (Previously Presented) A method of inkjet printing with an inkjet printhead having plural orifices from which print fluid is selectively ejected individually onto print medium, said method comprising steps of:

   providing a print formatter circuit for receiving high-level printing signals and responsively outputting both print data and print register addresses;

   providing a printhead controller circuit receiving said print data and said print register addresses, responsively outputting control signals to said print head for effecting ejection of printing fluid therefrom;

   including in said control signals an "orifice select" signal, and utilizing said "orifice select" signal to select from among said plural orifices of said printhead a single orifice from which printing fluid is ejected individually; and

   including in the control signals an "energy dissipation" control signal, and utilizing said "energy dissipation" control signal to control an energy level provided at said selected single orifice for ejecting printing fluid therefrom.

16.   (Original) The method of Claim 15 further including the step of providing said printhead controller circuit with an application specific integrated circuit (ASIC).

17.   (Original) The method of Claim 16 including the step of providing for said ASIC to be removed from said printer, and to be replaced with an updated new ASIC.

18.   (Canceled)

19.   (Canceled)

20.   (Currently Amended) The method of Claim ~~18~~15 further including the step of including in said control signals a "temperature level interrogation" signal, and utilizing said "temperature level interrogation" signal to assess a temperature of operation of said printhead.

21.   (Previously Presented) A method of operating an inkjet printing apparatus receiving high-level printing signals from a source of these signals and responsively providing control signals effecting actions of the printer, said method comprising steps of:

        providing a print formatter circuit receiving the high-level printing signals and responsively outputting mid-level interface communication signals including print data and print data register addresses;

        providing a printhead controller circuit including a replaceable ASIC receiving the mid-level interface communication signals and responsively providing low-level discreet-action control signals directly effecting printing actions of an inkjet printhead.

22.   (Canceled)

23.   (Previously Presented) The method of Claim 21 further including the step of providing for the printing apparatus to accept and utilize a substitute ASIC.

24.   (Previously Presented) The method of Claim 21 including the steps of providing for said ASIC to include functions selected from the group consisting of:

        Nozzle_select, Energy_management, Encoder_signal Temperature_management, Horizontal_alignment, Vertical_alignment, and Timing_control; in which the function Nozzle_select informs an inkjet printhead which one or ones of the plurality of respective nozzles are to discharge a minute jet of printing fluid; the function Energy_management regulates an amount of power dissipated at a selected one of the plural nozzles;

the function Encoder_signal provides for location of the lateral position and direction of movement of a print head;

the function Temperature_management monitors a temperature of the printhead, the function Horizontal_alignment directs a printhead traverse mechanism of the inkjet printing apparatus to laterally align the printhead on print medium;

the function Vertical_alignment directs a print medium feed mechanism of the printing apparatus to align the print medium along a printing path; and

the function Timing_control synchronizes movements of the print medium feed mechanism, the printhead traverse mechanism, and other printing events.

25.   (Original) The method of Claim 24 further including the steps of providing for said ASIC to include functions selected from the group consisting of:

Printhead_identifier, Reset_sequencing, Continuity_testing, and Printhead_cleaning; and in which the function Printhead_identifier identifies a particular printhead installed in the printing apparatus, and provides an indication of the correct instruction set to be used for that printhead; the function Reset_sequencing resets the printhead to an initial starting condition if necessary; the function Continuity_testing verifies an electrical interface between the printhead controller circuit and the printhead; and the function Printhead_cleaning causes the printhead controller circuit to clean the nozzles of the printhead by ejecting bursts of ink jet ejections of pre-determined strength and intensity.

26.   (Original) The method of Claim 21 including the step of utilizing the intermediate level communication interface between the print formatter circuit and the printhead controller circuit as the exclusive communication of data, address, command, and information signals between these circuits.

27.   (Previously Presented) A printer interface, comprising:

means for receiving high-level printing signals and responsively outputting both print data and print register addresses; and

means for receiving said print data and said print register addresses including a printhead controller circuit having a replaceable ASIC, and responsively outputting control signals to effect printing fluid discharge in a controlled manner.

28.   (Previously Presented) A method of printing, comprising:

receiving high-level printing signals and responsively outputting both print data and print register addresses; and

receiving said print data and said print register addresses using a printhead controller circuit having a replaceable ASIC, and responsively outputting control signals to effect printing fluid discharge in a controlled manner.

29.   (Previously Presented) A printer interface, comprising:

means for receiving high-level printing signals and responsively outputting mid-level interface communication signals including print data and print data register addresses; and

means for receiving the mid-level interface communication signals addresses including a printhead controller circuit having a replaceable ASIC and responsively providing low-level discrete-action control signals directly effecting printing actions of an inkjet printhead.

30.   (Currently Amended) A printing method, comprising:

receiving high-level printing signals and responsively outputting mid-level interface communication signals including print data and print data register addresses; and

receiving the mid-level interface communication signals addresses <u>including a printhead controller circuit having a replaceable ASIC</u> and responsively providing low-level discrete-action control signals directly effecting printing actions of an inkjet printhead

31.   (Previously Presented) A method for printing, comprising:

translating high-level printing signals to intermediate-level interface communication signals including print data and print data register addresses, wherein the translation between high-level printing signals to intermediate-level interface communication signals includes using a print formatter circuit;

translating intermediate-level interface communication signals to low-level printing signals, wherein the translation between intermediate level printing signals to low-level discreet control signals includes using a printhead controller circuit containing a replaceable ASIC; and

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responsively providing low-level discreet control signals for controlling a printhead, wherein responsively providing-low level discreet control signals includes utilizing the removable ASIC such ASIC providing configuration signals for allowing a different printhead to adapt to printer controls and printer control signals in a printer.

32.   (Previously Presented) A method of inkjet printing with an inkjet printhead having plural orifices from which print fluid is selectively ejected individually onto print medium, said method comprising steps of:

providing a print formatter circuit for receiving high-level printing signals and responsively outputting both print data and print register addresses;

providing a printhead controller circuit including a replaceable ASIC for receiving said print data and said print register addresses; and

responsively outputting control signals to said print head for effecting ejection of printing fluid therefrom.